

## CLAIMS

What is claimed is:

1. A digitally imaged lenticular product having a special effect feature, the product comprising:

5 a lenticular lens having an array of lenticules defining a front surface, and a substantially flat back surface located opposite the front surface; and

a digitally output interlaced image including a special effect feature, the image joined to the flat back surface of the lens so as to be in correspondence with the array of lenticules.

10 2. The digitally imaged lenticular product of claim 1 wherein the digitally output interlaced image including the special effect feature is printed directly to the flat back surface of the lens.

3. The digitally imaged lenticular product of claim 1 where in the digitally output interlaced image including the special effect feature is printed to a substrate and the substrate is attached to the flat back surface of the lens.

15 4. The digitally imaged lenticular product of claim 1 wherein the digitally output interlaced image including the special effect feature is created using a digital printing press.

20 5. The digitally imaged lenticular product of claim 1 wherein the digitally output interlaced image includes at least one security feature.

6. The digitally output interlaced image of claim 5 wherein the security feature comprises an ink that is visible only with at least one of ultra-violet (UV) light, infrared (IR) light, and fluorescent light.

5 7. The digitally output interlaced image of claim 5 wherein the security feature comprises at least one of: an alphanumeric code, a bar code, micro text, and a digital water mark.

8. The digitally imaged lenticular product of claim 1 wherein the lens and the image are used as part of at least one of a container, a cup, a label, a package, a ticket, an event entry pass, a  
10 mouse pad, a document, and an identification card.

9. A digitally imaged lenticular product having a special effect feature, the product comprising:

15 a lenticular lens having an array of lenticles defining a front surface, and a substantially flat back surface located opposite the front surface; and

a digitally output image joined to the flat back surface of the lens, the digitally output image comprising an interlaced image that is in correspondence with the array of lenticles and a noninterlaced lenticular security feature.

20 10. The digitally imaged lenticular product of claim 9 wherein the digitally output image is printed directly to the flat back surface of the lens using a digital printing device.

11. The digitally imaged lenticular product of claim 9 wherein the digitally output image is printed to a substrate and the substrate is attached to the flat back surface of the lens.

12. The digitally imaged lenticular product of claim 9 wherein the security feature comprises an ink that is visible only with at least one of ultra-violet (UV) light, infrared (IR) light, and fluorescent light.

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13. The digitally imaged lenticular product of claim 9 wherein the security feature comprises at least one of: an alphanumeric code, a bar code, micro text, and a digital water mark.

14. The digitally imaged lenticular product of claim 9 wherein the lens and the image are used as part of at least one of a container, a cup, a label, a package, a ticket, an event entry pass, a mouse pad, a document, and an identification card.

15. A digital dual- imaged lenticular product having an intermediate coating layer, the product comprising:

15 a lenticular lens having an array of lenticles defining a front surface, and a substantially flat back surface located opposite the front surface;

a digitally output interlaced image having a first surface that is joined to the flat back surface of the lens and second surface that is opposite the first surface, the digitally output interlaced image in correspondence with the array of lenticles;

20 a intermediate coating layer applied to at least a portion of the the second surface of the digitally output interlaced image; and

a digitally output image digitally output to at least a portion of the intermediate coating layer.

16. The digitally imaged lenticular product of claim 15 wherein the digitally output interlaced image is printed directly to the flat back surface of the lens.

17. The digitally imaged lenticular product of claim 15 wherein the digitally output interlaced  
5 image is printed to a substrate and the substrate is attached to the flat back surface of the lens.

18. The digitally imaged lenticular product of claim 15 wherein the digitally output interlaced image includes a special effect feature.

10 19. The digitally imaged lenticular product of claim 18 wherein the special effect feature comprises an ink that is visible only with at least one of ultra-violet (UV) light, infrared (IR) light, and fluorescent light.

20. The digitally imaged lenticular product of claim 18 wherein the security feature  
15 comprises at least one of: an alphanumeric code, a bar code, micro text, and a digital water mark.

21. The digitally imaged lenticular product of claim 15 wherein the lens, the digitally output interlaced image, the white coating layer, and digitally output image are used as part of at least one of a container, a cup, a label, a package, a ticket, an event entry pass, a mouse pad, a  
20 document, and an identification card.

22. The digitally imaged lenticular product of claim 15 wherein the white coating layer is one of a spot coating and a flood coating.

23. The digitally imaged lenticular product of claim 15 wherein the digitally output image does not interfere with the digitally output interlaced image.

24. The digitally imaged lenticular product of claim 15 wherein the digitally output image is  
5 not viewable by a viewer when viewing the digitally output interlaced image.

25. The method of Claim 1 wherein the lenticular lens has a lenticular lens resolution  $L$  that is determined according to the relationship  $L = d/f$ , where  $d$  is a digital printer machine resolution and  $f$  is a number of frames to be included in the interlaced image.